



ACROSS

- 1 _____ over is the process by which two chromosomes, paired up during prophase 1 of meiosis, exchange some portion of their DNA.
- 7 The _____ strand is the DNA strand at the opposite side of the replication fork from the lagging strand.
- 9 _____ is the process by which one diploid eukaryotic cell divides to generate four haploid cells often called gametes.
- 10 The _____ of replication is a particular DNA sequence at which DNA replication is initiated.
- 11 During cell division, the _____ apparatus pulls apart the chromosomes into the two daughter cells.
- 13 A _____ fragment is a relatively short fragment of DNA, with an RNA primer at the five prime terminus, created on the lagging strand during DNA replication.
- 16 A _____ is a nucleic acid strand, or a related molecule, that serves as a starting strand of nucleotides for DNA polymerase to add to.
- 17 The _____ phase is a period in the cell cycle during interphase, after cytokinesis and before the S phase.
- 18 _____ is the stage of mitosis in the eukaryotic cell cycle in which

- condensed chromosomes, carrying genetic information, align in the middle of the cell before being separated into each of the two daughter cells.
- 20 _____ is the process by which a cell duplicates its genetic information in order to generate two, identical, daughter cells.
- 24 A _____ is one of two identical strands of DNA making up a chromosome that are joined at their centromeres, for the process of nuclear division.
- 25 The _____ is made up of two DNA polymerase III core enzymes, which are each made up of three subunits: one with polymerization activity, one with proofreading ability and one that stimulates the proofreading.
- 30 _____, also called syndesis, is the pairing of two homologous chromosomes that occurs during meiosis.
- 31 _____ is the DNA sequence that signals for the origin of replication, sometimes referred to simply as origin.
- 32 DNA _____ III holoenzyme is the primary enzyme complex involved in prokaryotic DNA replication.
- 36 _____ is the phase of mitosis following prophase and preceding metaphase, in eukaryotic somatic cells.

- 37 _____ is a tightly packed form of DNA. Its major characteristic is that transcription is limited.
- 38 DNA _____ I is an enzyme that mediates the process of DNA replication in prokaryotes, an example of a processive enzyme - an enzyme which catalyzes a series of polymerisations.
- 39 _____ chromatids are identical copies of a chromosome.
- 40 DNA _____ is the process of copying a double-stranded DNA molecule.

DOWN

- 2 The _____ complex is a protein structure that forms between two homologous chromosomes during meiosis which is thought to mediate chromosome pairing, synapsis, and recombination.
- 3 The _____ phase is the third, final, and usually the shortest subphase during interphase within the cell cycle in which the cell undergoes a period of rapid growth to prepare for mitosis.
- 4 The cell _____ is the series of events that take place in a eukaryotic cell leading to its replication.
- 5 _____ is a stage in either meiosis or mitosis in which nuclei reform and chromatin loses its condensed state.

- 6 _____ chromosomes are non-identical chromosomes that contain information for the same biological features and contain the same genes at the same loci but possibly different genetic information at those genes.
- 7 The _____ strand is the DNA strand opposite the replication fork from the leading strand.
- 8 Binary _____ is the form of asexual reproduction in most prokaryotes by which one cell divides into two cells of the same size.
- 12 The replication _____ is a structure that forms during DNA replication having two branching prongs, each one made up of a single strand of DNA.
- 14 _____ is the stage of mitosis when chromosomes separate in a eukaryotic cell.
- 15 _____ ligase is a particular type of ligase that can link together strands that have double-strand breaks
- 16 A DNA _____ is an enzyme that assists in DNA replication, catalyzing the polymerization of deoxyribonucleotides alongside a DNA strand.
- 19 _____ replication describes the method by which DNA is replicated which produces two copies each containing one of the original strands and one entirely new strand.
- 21 _____ is a stage of mitosis in which chromatin condenses into a highly ordered structure called a chromosome.
- 22 _____ is the process whereby the cytoplasm of a single cell is divided to spawn two daughter cells.
- 23 Cell _____ is a process by which a cell, called the parent cell, divides into two cells, called daughter cells.
- 26 A _____ is the region in the middle of a chromosome where sister chromatids join in the double chromosomal structure during mitosis, prophase and metaphase.
- 27 _____ is a phase of the cell cycle, defined only by the absence of cell division.
- 28 The _____ is the protein structure in eukaryotes which assembles on the centromere and links the chromosome to microtubule polymers from the mitotic spindle during mitosis and meiosis.
- 29 A _____ is a single large macromolecule of DNA, and constitutes a physically organized form of DNA in a cell.
- 30 The S phase, short for _____ phase, is a period in the cell cycle during interphase, between G1 phase and the G2 phase.
- 33 A _____ is a region of highly repetitive DNA at the end of a linear chromosome that functions as a disposable buffer.
- 34 _____s are the chief protein components of chromatin. They act as spools around which DNA winds, and they play a role in gene regulation.
- 35 DNA _____ is activated by DNA helicase to synthesize a short RNA primer as a starting point for replication.